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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/791,295

03/03/2004

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EXAMINER

ARENA, ANDREW OWENS

ART UNIT

PAPER NUMBER

2811

MAIL DATE

DELIVERY MODE

01/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/791,295 | Applicant(s) SUEHIRO ET AL. | |
| | Examiner Andrew O. Arena | Art Unit 2811 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11,36,40 and 46-58 is/are pending in the application.
- 4a) Of the above claim(s) 7-11,36 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>AUG 25 2008 & OCT 22 2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 7-11, 36 and 40 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable linking claim. Applicant timely traversed the restriction in the reply filed on 9/28/2007.

Claim Rejections - 35 USC § 102

Statute 35 U.S.C. § 102 is the basis for anticipation rejections made herein:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 46-48 and 51-55 are rejected under 35 U.S.C. § 102(b) as being anticipated by Soules (US 6,252,254).

RE claim 46, Soules discloses a light emitting apparatus (col 3 ln 46) comprising:

- a semiconductor light-emitting element (12, col 3ln 47) that emits light with a predetermined wavelength (col 3 ln 57-61); and
- an external lens (16, col 3 ln 49) having a light convergence shape to converge light emitted from the light-emitting element, said external lens comprising:
 - a recess to house the semiconductor light-emitting element; and
 - a phosphor layer portion (14, col 3 ln 47-48) that is formed on a surface of the recess, the phosphor layer portion including a phosphor to be excited by irradiating light emitted from the semiconductor light-emitting element (col 4 ln 2-3), wherein the recess is closely disposed surrounding the light-emitting element such that the light

Art Unit: 2811

convergence shape converges light radiated from the phosphor layer portion into a spot of light (Soules discloses all structure implied by this apparatus claim, MPEP § 2114).

RE claim 47, Soules discloses a light emitting element(12) comprises a flip-chip type light emitting diode (one of ordinary skill appreciates that Soules shows connections on opposite side of emission, which is a “flip chip”) that emits light that emits light from its light emission surface located opposite side of its mounting surface.

RE claim 48, Soules discloses the recess is located close to the semiconductor light-emitting element along the profile of the semiconductor light-emitting element.

RE claim 51, Soules discloses the phosphor layer portion is formed on an entire surface of the recess.

RE claim 52, Soules discloses the phosphor layer portion comprises a uniform thickness.

RE claim 53, Soules discloses a horizontal cross section of the recess comprises one of a circular shape and a rectangular shape.

RE claim 54, Soules discloses an electrode (inherent in functioning device), said light emitting element being formed on said electrode, and said external lens being affixed to said electrode by a sealant (14) formed on said light- emitting element.

RE claim 55, Soules discloses said external lens comprises: a convex portion and a bottom surface which is formed opposite the convex portion and includes said recess.

Claim Rejections - 35 USC § 103

Statute 35 U.S.C. § 103(a) is the basis for obviousness rejections made herein:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being obvious over Soules as applied to claim 46, in view of Roberts (US 6,335,548).

RE claims 49 & 50, Soules differs from the claimed invention only in not disclosing a plurality of light-emitting diodes.

Roberts is analogously directed to a light emitting apparatus comprising a semiconductor light emitting element and discloses (e.g., Fig 19) said element comprises a plurality of light-emitting diode (LED) elements (1909-1911, col 29 ln 65) which have different emission wavelength (col 30 ln 11-14) which are disposed in a predetermined arrangement; allowing "light of any color desired" (col 30 ln 18-20).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Roberts such that the semiconductor light-emitting element comprises a plurality of light-emitting diode (LED) elements which have different emission wavelengths and are disposed in a predetermined arrangement; at least to allow light of any color desired.

Claims 56-58 are rejected under 35 U.S.C. 103(a) as being obvious over Soules as applied to claim 55, in view of Chen (US 6,531,328).

RE claim 56, Soules discloses a mounting (inherent in functional device).

Soules differs from the claimed invention only in not explicitly showing the mounting details.

Chen is analogously directed to a light emitting apparatus (e.g., Fig 18) comprising a semiconductor light emitting element (3, col 5 ln 24 & 30), mounted on a wiring pattern (17, 18) formed on a surface of a submount (8) formed on a concave portion of an electrode.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made that said mounting comprise a submount formed on a concave portion of said electrode, a wiring pattern being formed on a surface of said submount and said light-emitting element being mounted on said wiring pattern; at least to use a known suitable mounting arrangement.

RE claim 57, Soules in view of Chen discloses said electrode comprises a plurality of leads, and said submount is formed on said plurality of leads.

RE claim 58, Soules discloses (Fig 3) a gap is formed between a surface of said phosphor layer portion (34) and said light-emitting element (32), said sealant (38) filling said gap.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew O. Arena whose telephone number is (571)272-5976. The examiner can normally be reached on M-F 8:30-5.

Art Unit: 2811

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne A. Gurley can be reached on 571- 272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew O. Arena/
Examiner, Art Unit 2811
5 January 2009

/Lynne A. Gurley/
Supervisory Patent Examiner, Art
Unit 2811